

Amendment
Application No. 09/782,169
Attorney Docket No. 010164

AMENDMENTS TO THE CLAIMS

Listing of claims:

This listing of claims replaces all prior versions and listings of claims in the application.

1. (Previously Presented) A process for producing a laminate comprising a polyimide and a conductor layer, which comprises

forming at least one conductor layer directly adhering with at least one of the thermoplastic polyimide surfaces to obtain a laminate, and
heating said laminate after said laminate is formed so that the adhesion strength between the thermoplastic polyimide and the conductor layer is enhanced.

2. (Currently Amended) A process for producing a laminate ~~comprises~~ comprising a polyimide, a sheet material and a conductor layer, which comprises

casting or applying a polyamic acid corresponding to a thermoplastic polyimide to at least one of a sheet material surface,
imidating said polyamic acid to form a polyimide laminate having a thermoplastic polyimide surface,

forming at least one conductor layer directly adhering with at least one of the thermoplastic polyimide surfaces to obtain a laminate, and

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heating said laminate so that the adhesion strength between the thermoplastic polyimide and the conductor layer is enhanced.

3. (Currently Amended) A process for producing a laminate ~~comprises~~ comprising a polyimide, a sheet material and a conductor layer comprises

attaching at least one thermoplastic film to at least one of a sheet material surface to form a polyimide laminate having thermoplastic polyimide surface(s),

forming at least one conductor layer directly adhering with at least one of the thermoplastic polyimide surfaces, and

heating said laminate so that the adhesion strength between the thermoplastic polyimide and the conductor layer is enhanced.

4. (Original) The process according to claims 2 or 3, wherein said sheet material is a non-thermoplastic polyimide film.

5. (Original) The process according to any one of claims 1 to 3, wherein the thickness of said conductor layer is from 0.01 to 5 μ m.

6. (Original) The process according to any one of claims 1 to 3, wherein the heating temperature is 50°C or higher.

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7. (Original) The process according any one of claims 1 to 3, wherein the heating temperature is higher by 30°C or more than the glass transition temperature of the thermoplastic polyimide.

8. (Previously Presented) The process according to any one of claims 1 to 3, wherein said heating step is carried out under pressure.

9. (Original) The process according to claim 8, wherein the pressure at the pressurizing is 1 MPa or more.

10. (Previously Presented) The process according to any one of claims 1 to 3, wherein said conductor layer is formed by a dry plating method.

11. (Original) The process according to claim 10, wherein said dry plating method is one selected from a group consisting of sputtering method, vacuum evaporation method, ion plating method and chemical evaporation method.

12. (Original) The process according to claim 10, which further comprises increasing the total thickness of the conductor layer by a wet plating method.

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13. (Original) The process according to any one of claims 1 to 3, wherein said conductor layer comprises copper.

14 – 16 (Canceled)

17. (Currently Amended) A process for producing a laminate comprising:
dry plating at least one conductor layer directly adhering with at least one surface of a thermoplastic polyimide to obtain a laminate, and
heating said laminate so that the adhesive strength between the thermoplastic polyimide and the conductor layer is enhanced.

18. (Previously Presented) A process producing a laminate comprising:
providing a thermoplastic polyimide having at least one surface;
forming a conductor layer directly adhering with said at least one surface; and
heating the thermoplastic polyimide and the formed conductor layer.

19. (New) The process according to any one of claims 1 to 3 or 17, wherein said laminate has a peel strength of at least 1.0 N/cm prior said heating.

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20. (New) The process according to claim 18, wherein said conductor directly adheres with said at least one surface with a peel strength of at least 1.0 N/cm prior to said heating.